94

M.R.O. 1—20,002—12-8-65.

(1) Number of Pages 16

(2) Date of repair 7-4-66

(3) Initials of the Referencer

MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

Rev DEPARTMENT

G.O. No. / B.P. No.	94	Press / Mis.
Dated	16-10-1873	196 .

Not to be folded or roughly handled

94/1

Experiments for ascertaining the value of poudrette as a manure.

B Progs., May 1872, Nos. 3 & 4, and K. W.

B Progs., June 1872, No. 67.

THE Military Department having addressed us on the subject of the trench system of conservancy for Native Troops, and the description of cultivation which should be attempted in connection therewith, that Department was told that, judging from general experience in the use of manures, it was believed that if the excreta were allowed from 8 to 12 months for thorough assimilation with the soil, any crop ought to flourish in ground manured with latrine poudrette, and the selection of the particular crop must depend (1) on the presence or absence of facilities for irrigation, and (2) on the local demand.

Mr. Halsey was at the same time asked to let us have a resumé of his experience as to the crops which grew best in poudrette-manured land (1) when artificial irrigation was available, and (2) when it was not available. But he could not say anything definitely in the matter. He, however, mentioned that a great deal depended, in the first place, on the chemical compositions of the dry earth used to make the poudrette, and that up to the present date very little had been done towards testing the value of the manure on the Government Farm.

At Umraoti and Sheagaum it was tried in cotton lands with little or no result. Mr. Batcock, the Superintendent of the experiments at Sheagaum, attributed the failure to the earth which was used to make poudrette being pulverized moorum, a soil in itself of such a sterile nature that it would require all the fertilizing power of the night-soil to place it on a par with the fields on which it was tried. In his opinion, thoroughly dried black soil would answer much better for the preparation of poudrette than wood-ashes, which were used, but had no effect.

Mr. Halsey's own experience of poudrette made with good strong clay, dried and pulverized, was that it was highly efficacious for strong coarse growing crops, such as sugar-cane, jowar, sorghum, Indian corn, melons, cabbages, and many other garden crops. The only experiment he ever tried on cereals resulted in a very heavy yield of straw, but little grain.

The market gardeners in the neighbourhood of Futtehgurh had worked the night-soil pure and simple into their lands very

effectually, and managed to raise three crops a year out of the same land, first Indian corn, then potatoes, and then tobacco. But latterly a complaint was made against the quality of the potatoes. "There is no doubt," Mr. Halsey continued, "the "manure is very heating, and I imagine "this is one of those instances in which "experiments conducted scientifically may "point out the chemical property which "is wanting to render the manure in-"nocuous."

On one occasion at Cawnpúr, Mr. Halsey observed a disease in the sugarcane. A small maggot was either produced in the cane itself or found its way up the stem, and in every instance the canes were found totally devoid of juice. Most of the native cultivators were of opinion that this was caused by too great a quantity of manure. Subsequently he observed the same insect in some cane watered by canal water, and was told that it was not an unfrequent result of the use of canal water.

All this was mentioned by Mr. Halsey to show that the subject was one regarding which much further enquiry was needed before any authoritative opinion could be given.

A copy of the above communication from Mr Halsey was forwarded* to the Military Department, which expressed a wish to be kept informed of the result of any experiment that might be made in the use of poudrette or of simple latrine land. Accordingly, a circular was issued on the 6th July last, asking the local Governments and Administrations to favor the Government of India with the results of any experiments that were in progress in different parts of the country, under the auspices of the several municipal committees, for ascertaining the value of poudrette as a manure, the best methods of applying it, the soils and crops to which it was best suited, and other similar points.

In reply, the Chief Commissioner of Oudh submitted copy of a correspondence in which was embodied a very interesting paper regarding the system of dry-earth conservancy adopted at Rai Bareli, and he was thanked for it. It was, however, pointed out that the paper bore only very indirectly upon the questions mooted in the circular of the 6th July, and he was requested to communicate to the Government of India any available information bearing on the special points therein raised. A copy of the correspondence received from the Chief Commissioner

* Endorsement No. 242, dated 20th June 1872.

Progs., July 1872, Nos. 2 & 3.

Progs., August 1872, Nos. 10 to 12.

was at the same time forwarded to other local Governments and Administrations in continuation of the circular.

Mysore, No. 3362-68, dated 17th September 1872.

No experiments of the kind mentioned have as yet been made by any of the municipal committees in Mysore, and the poudrette is said to have been only partially used as a fertilizer in some of the jail gardens, but on no system which would admit of the results being specially reported. The Chief Commissioner, however, observes that it is very generally used, mixed with other manure, by numerous gardeners about Bangalore, and is well known and highly appreciated as a valuable fertilizer. The Judicial Commissioner has been requested to instruct the Superintendents of Jails to carry out the experiments systematically, and to report the results at the close of the year; and the divisional Superintendents have also been directed to urge the municipalities within their respective divisions to adopt the same course.

Haidarabad, No. 63, dated 4th October 1872.

The Officiating Commissioner of West Berar reports that the experiments with poudrette during the past year were much interfered with by the failing of the harvests in consequence of the drought in that division. Some attempts were, however, made at the cotton farm there during the last two seasons. In the first of these the poudrette obtained from the Akola jail was found to be insufficiently strong by reason of the large proportion of gravel in the mixture.

In 1871 the land was deeply ploughed and manured with poudrette at the rate of one ton per acre, and was, on the 10th of June, sown half with jarree and half with bani cotton seeds. They germinated, but owing to dry weather all the young plants died. The field was again sown entirely with jarree seed on the 24th July following, and the effect of the manure was soon perceived in the plants, which were pretty strong for the season, and which, although short of water, kept a good and healthy appearance. The experiment went through the usual process of hoeing, weeding, &c., but Mr. Pillan, the Superintendent of the farm, says that it "suffered like all the rest of our cotton last year." The outturn was at the rate of 72lbs. of clean cotton per acre; while land manured with bones yielded 99 lbs., and that with farm-yard manure, 43 lbs., 72 lbs., 90 lbs., and 103 lbs., respectively; unmanured land producing on an average 26 lbs.

Further experiments are being made on the Akola farm, and as the weather has hitherto been very favorable, the Assistant Commissioner, Mr. Dunlop, hopes to be able to criticise the merits of the manure more decidedly than has yet been possible. Personally, he has great confidence in poudrette, and believes that to take measures to facilitate its more general use in the district is one of the most important steps that could be taken for the improvement of agriculture in Berar. In Mr. Pillan's opinion, it is far better to plough the manure deep under the soil for cotton than to put it on as a top dressing, for he has found it to be beneficial in a great degree when coming in contact with the roots of plants.

With a view to extend the use of poudrette as a manure, Mr. Dunlop has suggested that it might be prepared in the taluk towns and thence distributed to cultivators. As these towns are already supplied with sweepers, he thinks that this might be done at a trifling cost, but he apprehends difficulty in getting the tehsildars to take an interest in the matter.

The Assistant Commissioner of Cotton, East Berar, says that, at the Umraoti farm, eleven plots of ground were manured with different manures at different rates, and grown with different sorts of cotton; and, although the season of the past year was very unfavorable, the Umraoti town poudrette did the best, and ashes, jail poudrette, and guano did no good to the crops to which they were applied. The yield of the plot deep-ploughed and manured with town poudrette was 101lbs. of clean Hingunghat cotton per acre, against an outturn of 25lbs. from unmanured land.

No experiments have been made for ascertaining the value of poudrette as a manure, but it is used as such in the jail gardens, the geological formation of which is black soil overlying trap; and the Inspector General of Jails, Haidarabad Assigned Districts, considers it to be an excellent manure when used sparingly, or when kept for a considerable time before being used, as large quantities of it when used fresh cause the vegetables to burn up.

In forwarding the above reports, the Resident says that the results of further experiments with poudrette, which are in progress in the Assigned Districts, will, in due course, be reported for the information of the Government of India.

No. 4807-149G, dated 17th December 1872.

The Government of Bombay forwards a copy of reports from District Officers and the Municipal Commissioner for the city of Bombay on the disposal of night-soil.

The Commissioner in Sind says that poudrette has been successfully used as a manure in the Haidarabad Jail. No experiments have, however, been made by municipalities for the sole purpose of testing its value, "but" says the Commissioner, "the gardeners of Sind, who are almost invariably Banias, are well acquainted with its use." The poudrette is sprinkled over the surface of the ground, and applied to the roots of valuable plants, such as "bhang, tobacco, saffron, and others," two and even three times, while the crop is growing. The Commissioner, however, remarks that Mussalmans, who form the mass of the cultivating class in Sind, do not use it.

From the reports of the several officers in the northern division, it appears that no experiments have ever been made, though in some districts human excreta and night-soil have been made use of as manure. In Surat the night-soil mixed with ashes has been sold to Hindoo and other cultivators, and is used by them without the least prejudice as the best manure for cultivating jowari and vegetable and fruit trees.

In Nasik the poudrette has been taken to a considerable extent by the owners of gardens and fields, and many of those who have used it as a manure speak favorably of the results they have obtained.

Road-sweepings and refuse from dust-bins are, however, preferred to poudrette. "One reason for this," says the Commissioner, "seems to be that the cultivators object to use their carts for the removal of the poudrette."

The Commissioner adds that experiments have been made to try the poudrette against other kinds of manure. He is, therefore, unable to report any details.

The Health Officer of Bombay, speaking of manures, says, "I made in the rudest manner a manure by mixing fresh night-soil in a pit, with the ashes of burnt town-sweepings, and then spreading the mass by handfuls in the sun to dry, which it did in a few days, this manure resulting in an earth which was inoffensive to sight or smell." A small quantity of earth was given by the Health Officer to Dr. Gray, the person in charge of the Victoria Gardens, and it was found to be an excellent manure, and well fitted for the growth of vegetables.

In the Deccan night-soil has long been utilized under the name of "sonkhud," golden manure.

The following are the results obtained from Oudh :—

No. 5209, dated 10th December 1872.

The Superintendent, Department of Science, states that night-soil has been used by native cultivators from time immemorial with immense benefit to their crops. He adds that the new Municipal Committee contemplate building sheds in the city under which a thorough mixture of night-soil with earth will be carried on—in short, perfect poudrette manufactured. "When this is done," says the Superintendent, "very interesting experiments may be made with this manure." Experiments made with the city night-soil in its present state would, the Superintendent thinks, result in no more information than is gathered from the results of cultivators who use night-soil extensively as a manure.

The Commissioner of Faizabad is trying to get the Rai Bareli system introduced.

The Commissioner of Sitapur reports no experiments.

The Commissioner of Rai Bareli reports that the poudrette has not been experimented on anywhere, except by the Civil Surgeon, who reports very favorably on its qualities as a manure.

In Sultanpore, experiments are about to be tried in the public garden.

In Pratabgurh, agriculturists decline to use poudrette.

In Lucknow, likewise, nothing has been attempted. The same remark applies to the district of Unao.

In Bara Banki the public latrine refuse is sold, in a semi-moist state, to cultivators, who use it chiefly for their sugar-cane and wheat lands. It is used also by Murans cultivating cabbages and cauliflowers, for which it is regarded as the best of manures. This manure is also used for the land under kharif, but not so liberally as in the case of the wheat and sugar-cane lands.

The night-soil manure, it is stated, is ploughed into the soil and not used as poudrette to spread broad-cast over young growing crops.

The following is the account given by the Chief Commissioner of the Central Provinces.

No. 4492-218, dated 21st December 1872.

Nagpur Division.—Poudrette has been used in the garden attached to the Central Jail for the last four or five years, but no records have been kept regarding the success or failure of the measure. The Superintended reports that its constant use in the garden has made the soil too rich for the growth of vegetables which are of poor quality. In the Sonegaon Reformatory garden, where poudrette was used in a sugar-cane field, the experiment was successful. The crop turned out a very fine one, the canes being thick and of greater height than usual. The manure was also a success with flower trees.

The Superintendent of the Jail believes it to be a capital manure for cotton fields, and states that considerable quantities have been sent to the Assistant Cotton Commissioner of Khamgaon, in the Berars.

Jabalpur Division.—No experiments were made in the towns of Jabalpur and Damoh, owing to the difficulty at both these stations of obtaining suitable soil in the immediate vicinity of the towns. At Jabalpur some of the poudrette is sold to gardeners, who have, during the last two years, manured seven acres for a potatoe crop, three acres for sugar-cane, and sixteen acres for melon cultivation. The potatoe crop was a marked success. At Sagar no records of the experiments tried exist, but the Deputy Commissioner reports that the results obtained by the use of the manure in the public garden were not very extraordinary. The vegetables and flowers grown on manured ground turned out well. At Seoni experiments were carried out on a limited scale. The night-soil of the town is deposited in a field up to May, then ploughed until it is dry and thoroughly mixed up with the soil. The vegetables raised in this field are reported to have been very fine. At Mandla an experiment on a small scale was conducted by the employment of poudrette in a sugar-cane field for two years. The canes were thick and luxuriant; financially, however, the experiment was a failure, and did not repay the expenditure incurred, owing to the prejudice among the Hindus to touch the canes.

Narbada Division.—In the town of Hoshangabad, which is a small one, a field manured with poudrette has been prepared this year for tobacco. In Nimar, some use has been made of poudrette as a manure in the public gardens at Khandwa and Barhampur, but on so small a scale as to produce no appreciable effects. At Chindwara, the public garden has always been more or less manured with poudrette, but of its superiority as a manure over other manures nothing is known; the garden has, however, long been noted for the abundance and excellence of its produce.

Chhattisgurh Division.—Experiments were conducted on a small scale in the Raipur public garden in the cultivation of vegetables and fruit trees. The use of poudrette was accompanied with favorable results. Peach trees are found to require the use of poudrette once every year; guava and mulberry trees once every three years. It is stated that the trees thus manured required copious watering, owing to the *latent heat of the manure.*

In Bilaspur, 30 seers of potatoes cut in halves were planted in trenches manured with poudrette, and the yield was four maunds, or a little more than five-fold. The size of the smallest potatoe was double the size of those sown, and five of the largest weighed one seer and two chittaks; some of the crop was diseased.

An experiment made at the same time in trenches manured with cow-dung gave a return only double the quantity put down, and the potatoes produced were no larger than those used as seed.

The Cawnpur system presumes that poudrette is deposited where it is to be used, and unless this principle is acted on in any experiments that may be made, the Chief Commissioner considers that success is almost impossible.

The Chief Commissioner adds that "experience conclusively shews that poudrette cannot bear the cost of two cartings."

Some further reports from District Officers are yet due, and the Chief Commissioner promises that should they contain any information of interest, they will be communicated to this Department.

In the North-Western Provinces, it is reported that there is a strong prejudice against the use of this kind of manure among the natives. No. 2056A, dated 26th December 1872.

The only place where it has been extensively used is in jail gardens.

The Inspector General of Prisons says that the manure is found to answer admirably for all kinds of vegetables when it is left for several months to decompose in the ground. If the ground be ploughed up immediately after the poudrette is deposited in the trenches and crops be sown on it they do not thrive, but seem to be burned up.

In jail gardens the poudrette is deposited in shallow trenches, and being covered over with earth, is left to decompose or part with its fertilizing elements to the soil. After an interval of three to six months the ground containing the poudrette is ploughed up and cultivated. No

Bengal, No. 324, dated 11th March 1873.

experiments have ever been made as to the suitability of this manure for particular crops, or as to its adaptability to certain soils.

The Government of the North-Western Provinces concludes by saying that if any thing of interest is reported hereafter, it will be communicated to the Government of India.

The Government of Bengal states that no experiments with poudrette have been attempted in the Calcutta Municipality, and that the Commissioners of Burdwan, Bhaugulpore, Rajshahye, Dacca, Patna, Chittagong, Orissa, Cooch Behar, and Assam Divisions have also submitted a blank report. The Commissioner of Chota Nagpore, however, submits a report on the experiments tried in the Ranchi Jail.

The method followed in this jail garden is as follows:—

The night-soil already previously mixed with a considerable quantity of dry earth is deposited daily in trenches about 4 feet square by 2 feet deep. The mixed night-soil is made to fill the trench up to 18 inches, and is covered over by a layer of earth 6 inches thick. After a period of about one year the bed is dug up to the depth of two feet, the poudrette manure is then found thoroughly decayed and turned apparently into ordinary rich soil, and entirely free from any offensiveness.

The soil is a somewhat reddish clay with an admixture of sand in it, and the poudrette manure seems to suit it very well, good crops being produced. The crops in which the increased productiveness from the use of this manure is most conspicuous are cabbages, cauliflowers, turnips, lettuces, radishes, water melons, pumpkins, peas, and knole-kole. The manure is used for all sorts of vegetables and fruits, and it seems to answer more or less well with all.

The Commissioner of the Presidency Division reports that no experiments seem to have ever been made by any municipality in that division for ascertaining the value of poudrette as a manure. He states that to some extent the experiment has been tried in the jail garden at Jessore. Dr. Bowser writes:—"Poudrette as a manure is not prepared and used as such in "the jail garden in the same way as is "customary to prepare and use it. The "following is the plan adopted by us:—A

"large bed in the vegetable garden is set "apart for conservancy purposes. The "night-soil mixed with earth is buried in "trenches till this bed is filled, when "another bed is used in a similar manner. "A bed so filled with night-soil is allowed to "lie fallow for a season, and then crops are "grown on it, so that in time the whole of "the large vegetable garden of the jail "gets manured in this wise. Crops sown "in beds just recently filled with buried "night-soils are found to scorch, whereas "if the ground be allowed to lie fallow for "a season it produces most luxuriant crops "for several seasons, say for about three "years, without the necessity of any more "manure being used for these three years."

Madras, No. 325, dated 8th March 1873.

The President of the Municipal Commission, Madras, states that no "poudrette" is used by the municipality as manure, but only decomposed street-sweepings and night-soil.

The President of the Municipal Commission, Trichinopoly, states that the system of dry-earth conservancy is not in force in that municipality, but that the human excreta from the latrines are freely purchased and applied as manure with good results.

The Superintendent of the Central Jail, Trichinopoly, reports that the only soil to which he has applied poudrette as a manure is a very loose red-loam, with a sub-stratum of gravel, and he states that its value in soil of this description is unquestionable. The method in which the Superintendent has applied poudrette is as follows:—Where the gravel came near the surface of the ground it was removed and poudrette substituted for it to a depth varying with the length of the roots of the crop to be sown. In other cases it was merely necessary to turn up the soil and thoroughly inter-penetrate it with the poudrette. The method he has found most effectual in the application of poudrette is to deposit it in trenches varying from nine inches to one foot in depth, where it remains for three months, when the ground is turned up and seeds sown. He has found poudrette suited to every kind of country vegetable, but with English vegetables he has found an admixture of ashes, from what cause he cannot say, absolutely necessary.

The President of the Municipal Commission, Neilgherry Hills, states that no regular experiments have as yet been undertaken in either of the two municipalities of Ootacamund and Coonoor. At Ootacamund the night-soil is removed from the latrines and carried in iron tank-carts to pits where it is mixed with earth and stored in sheds. During the last calendar year (before the 14th December) 164¾ tons of the poudrette thus manufactured were sold at the rate of Rs. 3 per ton. The President states, however, that the poudrette is not held in much estimation by the planters, who are the purchasers, on account of its deficiency in ash, and that the Commissioners propose to remedy this defect by manufacturing the poudrette with finely-sifted ash.

94/6

In Coonoor, the President reports, the practice has been to mix the town-sweepings with the night-soil of the latrines, and that this mixture has been in demand for the coffee lands on the Coonoor Ghaut.

British Burma, No. 140-58, dated 28th March 1873.

In British Burma, the only places in which experiments have been made are the jail gardens. The Chief Commissioner states that a report will be submitted on the subject at the end of this hot season.

Hyderabad, No. 8, dated 8th May 1873.

Hyderabad sends a further report on the subject from the Superintendent of the Government Farm at Akola. The only crops which were manured with poudrette at the farm were the three indigenous varieties of cotton, Bani, Jari and Hingunghat, one acre of each, the quantity of poudrette applied being three tons per acre. It was put in the sand in May 1872, and then ploughed in. After this the land was harrowed and the seed sown. Bani yielded the largest outturn, 134 lbs. of clean cotton to the acre; Jari 68lbs., and Hingunghat 57lbs. The Superintendent explains the great difference in the yields by stating that the Bani crop had no drawback in its youth, whilst the Jari and Hingunghat had, the latter being nearly washed away by a heavy fall of rain when the plants were only four inches long. The Superintendent's opinion is that poudrette is a first-class fertilizing manure, and that it will prove beneficial in the cultivation of cotton. He also states that he hopes to extend the experiments to cereals and other crops during the coming season, as a large supply of poudrette is obtainable from the jail, all of which he intends to secure. He proposes to apply the manure to wheat in the Chinese method, *viz.*, by manuring the plant and not the field, as by so doing there would be a saving of manure and at the same time it would be just or perhaps more beneficial than if spread on the field and ploughed in. He

thinks, however, that the latter would be the best way of using the poudrette for cotton, as the roots of the cotton plant run a long way in search of food, while those of the wheat confine themselves to a small space and by putting the manure in with the seed, the plant will receive all the benefit the manure can give it.

The only disadvantage to the speedy introduction of poudrette as a manure amongst the Coombees at Akola is their caste. They, however, acknowledge its excellence as a manure, but say that if a field is manured with it, and there happens to be a scarcity of rain, the plant will burn up owing to the heating qualities of the poudrette, but that with an ample rain-fall the manure is excellent.

Mysore, No. 817-10R, dated 15th May 1873.

Mysore sends a further report on the value of poudrette as a manure. In the Bangalore Central Jail gardens poudrette has been used as the principal manure for six or seven years, and it has been tried with many kinds of European and native vegetables. All have grown very fairly, but among the best have been potatoes, beet-root, carrots, turnips, and radishes and arrow-root, while peas and beans have not done so well. Dr. Henderson, the Superintendent, remarks that this would seem to show that the poudrette was more useful in such plants as contain sugar and starch than in those of more nitrogenous nature; that this is not what at first sight might be expected, but that perhaps it may be explained by the more vitalizing effect upon these crops which the phosphates of the poudrette have in conjunction with carbonic acid of the vegetable manure with which it is always mixed. He thinks that there are three points which it is necessary to attend to in its use—

I.—Not to apply it too soon or fresh.

II.—To add to it or mix with it some decaying vegetable matter, such as leaves, straw, or saw-dust.

III.—To secure that it shall receive a good supply of water by rains or by artificial means.

The first point, he states, is common to all manures, but it needs *more* to be attended to here because of the quantity of gases deleterious to vegetation given off from poudrette, if used too early. The second point is of importance, peculiar to the poudrette, inasmuch as without a due admixture of vegetable matter to furnish a due proportion of carbonic acid the phosphates, in which poudrette is rich, are not utilized. The third point of plentiful watering is

94/7

Punjab, No. 804, dated 29th May 1873.

needful for due solution of the matters contained, and to present them in a form in which they can be absorbed by the plants. Dr. Henderson adds that with these precautions or measures duly regarded he thinks that poudrette may be applied to any crop or any soil; attention being also given, if necessary, to any special want in the soil itself, such as sand, ashes, or lime.

In the Mercara (Coorg) Jail a certain quantity of Queensland maize manured with poudrette yielded 253·17 per cent. of grain and 165·57 per cent. of straw in excess of the yield from a similar quantity of seed raised with cattle manure.

From all the Chief Commissioner of Mysore has been able to gather from the reports of the officers consulted, it would appear that the value of poudrette as a manure is known and appreciated by the agricultural classes in general.

The Commissioner adds, in conclusion, that sufficient time has not been allowed for a fair and scientific trial of the experiment, and he states that a further report on the subject will be submitted in due course.

In the Punjab no experiments for ascertaining the value of poudrette as a manure have as yet been tried, but the attention of the principal [illegible] has been directed to the matter, and the results of any experiments they may carry out will be reported.

This précis now embodies all the information immediately obtainable from local Governments.

Information on the subject was orginally asked for by the Military Department, and they have not had our replies.

The general conclusion is very much that arrived at, in the first instance, by us in our office memorandum to the Military Department, No. 189, dated 2nd May 1872. Perhaps this précis might be shewn to the Military Department.

C. J. L., 11-6-73.

1873.

GOVERNMENT OF INDIA.

DEPARTMENT OF AGRICULTURE, REVENUE AND COMMERCE.

AGRICULTURE and HORTICULTURE.

PRECIS.

Experiments for ascertaining the value of poudrette as a manure.

94/8

No. 1,816.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 12th September 1873.

Read the following letter from C. J. LYALL, Esq., Under Secretary to the Government of India, Department of Agriculture, Revenue, and Commerce, to the Hon. W. HUDLESTON, Chief Secretary to Government, Fort St. George, dated Simla, 13th August 1873 :—

I FORWARD, herewith, fifty copies of a Précis summarizing the replies received from the local Governments and Administrations to a circular issued by this department requesting to be furnished with information as to the progress and results of any experiments that may have been made for ascertaining the value of poudrette as a manure.

2. I am to suggest that this summary might advantageously be distributed to Officers in charge of Jails, Botanical Gardens, Farms, etc., and that they might be encouraged to make careful experiments and submit accurate reports of the result.

FORWARDED to the Board of Revenue with the request that they will distribute the papers to the several departments indicated in view to further experiments being made.

OOTACAMUND,
25th August 1873.

(Signed) R. A. DALYELL,
Acting Secretary to Government.

To the Inspector-General of Jails	1	
,, the Superintendents of Central Jails at Cannanore, Coimbatore, Penitentiary, [illegible] ...	5	
,, the Secretary of the Agri-Horticultural Society	1	
,, the Superintendent of Government Farms	1	
,, the Presidents and Vice-Presidents of Local Fund Boards, at 1 each ...	36	
	46	

ORDERED accordingly that copies value of poudrette as a manure be furnished to each of the officers noted in the margin in view to careful experiments being made and the submission of accurate reports of the result.

(A true Copy and Extract.)

Acting Sub-Secretary.

To the Inspector-General of Jails, with one copy of Précis.
,, the Superintendent of Central Jail at Cannanore, with do.
,, the ,, ,, at Coimbatore, with do.
,, the ,, ,, at Penitentiary, with do.
,, the ,, ,, at Rajahmundry, with do.
,, the ,, ,, at Salem, with do.
,, the ,, ,, at Trichinopoly, with do.
,, the ,, ,, at Nellore, with do.
,, the Secretary of the Agri-Horticultural Society, with do.
,, the Superintendent of Government Farms, with do.
,, all Presidents and Vice-Presidents of Local Fund Boards, with one copy to each.
Copy to the Acting Secretary to Government, Revenue Department.

Exd. A. S. Rodgers.

Revenue 1873 Sept.
No. 3260

1873.

Board of Revenue,

MADRAS.

PROCEEDINGS, 12TH SEPTEMBER 1873, No. 1,816.

Dep^t 13 Oct^r 73 -

Encl.

Received 15 Oct 73

SEPTEMBER.

No. 1,816.

Value of Poudrette as a manure.—Copies of a Précis of papers on —, forwarded to certain officers in view to careful experiments being made and results reported.

No. 94

16 Oct

To Bds Rs 18 August 1873 Cir. No. 2503 dated 31 — 2459 CP